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Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards into Procurement Policies.	Rulemaking R.06-04-009

CEC Docket no. D.07-OIIP-01

COMMENTS OF THE GREEN POWER INSTITUTE ON ALLOWANCE ALLOCATION ISSUES

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Introduction

Pursuant to the October 15, 2007, *Administrative Law Judge's Ruling Requesting Comments and Noticing Workshop on Allowance Allocation Issues*, in R.06-04-009, the **Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards into Procurement Policies**, the Green Power Institute (GPI) respectfully submits these *Comments of the Green Power Institute on Allowance Allocation Issues*. Our Comments address the issues raised in the ALJ's *Ruling*.

The allocation and distribution of greenhouse gas emissions allowances is one of the most important, and potentially contentious, of the issues that will be addressed in this proceeding. In a cap and trade system emissions allowances, which are administratively created and regulated, will take on all of the characteristics of a traditional commodity. The value of the allowances will depend in no small part on the compliance and enforcement regime that is ultimately adopted for the AB 32 program. With a greenhouse gas-reduction program predicated on a continually shrinking supply of emissions allowances, the value of the allowances will increase inexorably over time, regardless of the kind of allocation system that is adopted. These characteristics need to be taken into account in order to design an emissions-allowance allocation regime that will support an effective greenhouse gas reduction program.

3.2 Administrative Allocation vs. Auction

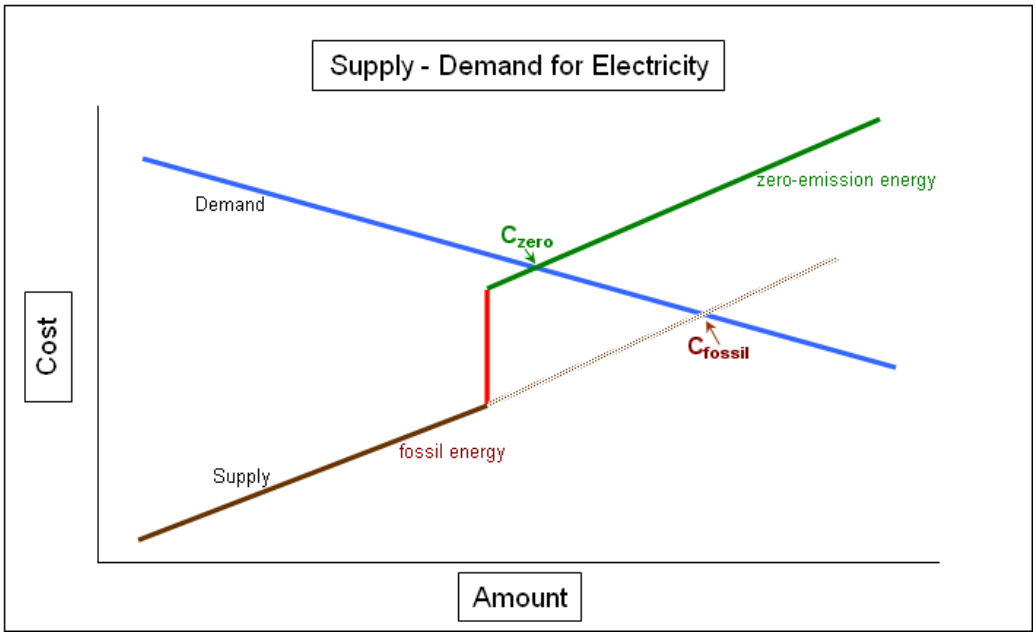
The ALJ's *Ruling* states, on page 4:

> Regardless of the chosen point of regulation, under a cap and trade system, two basic options exist for distribution of emissions allowances: they may be auctioned or they may be allocated administratively. A third option is some combination of the two, whereby some emissions allowances are auctioned and the rest allocated administratively.

We believe that the *Ruling* has left out an important third basic option for the distribution of greenhouse gas emissions allowances: distribution of the allowances by sale at an administratively-determined price, loosely following the model of sales of seats in a stadium for a popular (oversubscribed) event. Under a system of sales of emissions allowances at a predetermined price, the allocation of rights to purchase allowances can be based on an open-access, lottery-style allocation of rights to purchase allowances, an administrative allocation of rights to purchase allowances, or a combination of the two. The analogy to sales of tickets in a stadium holds: for a typical post-season sports event season ticket holders are given guaranteed rights to purchase tickets, while the remaining tickets are distributed according to some type of lottery-style allocation system.

In the current energy market, in which greenhouse gases are not yet regulated, it is generally acknowledged that the marginal energy source for most of the hours of the year is fossil fuel. As fossil carbon emissions are squeezed out of the system as a result of the implementation of AB 32, lower- and/or zero-greenhouse gas emission sources, including efficiency, will have to increase their collective share of the overall supply mix. As this process proceeds, and regardless of the details of the allocation system for emissions allowances that is eventually adopted, emissions allowances will take on all of the characteristics of an increasingly valuable commodity. We would suggest that these allowances be treated as commodities from the start. In our opinion, giving the emissions allowances away without charge to the recipients would represent a poor policy choice that is not in the public interest, equivalent to giving away public assets or resources.

The figure below shows, on a simplified basis, supply and demand curves for energy supplies available to a typical retail provider. While there is no regulation of greenhouse gases at the present time, the Commission's efficiency and renewables programs do require retailers to procure a portion of their needs from zero-emissions sources. Over time, as regulations require both increasing contributions of efficiency and renewables, and overall reductions in greenhouse gases, the vertical portion of the supply curve shown in red in the figure will move further to the left, and the supply mix will have more zero- and low-emissions energy, and less fossil energy, relative to the scenario shown in the figure.



The simplified case shown in the figure shows a supply curve that includes two components: fossil generation, and zero-emissions generation. In the absence of any requirement to purchase from the more expensive (in the figure) zero-emissions segment of the supply curve, the market clearing price would be set at C_{fossil}, where the extension of the fossil energy supply curve crosses the demand curve. In the case shown in the figure, regulation has required a certain amount of purchases from the zero-emissions portion of the supply curve, and the market-clearing price is set at C_{zero}, where the green portion of the supply curve crosses the demand curve. The GPI believes that the Commission's existing preferred-procurement programs (efficiency, RPS) have already driven the market to the position illustrated in the figure, where the market-clearing price is determined by the zero-emissions energy portion of the supply curve.

The result of having moved to a world of preferred procurement, from an economic perspective, is that the market-clearing price for energy supplies has taken a one-time bump that is illustrated in the figure roughly as the vertical red line, or more particularly, as C_{zero} - C_{fossil}. Due to this regulatory-driven bump in the market-clearing price, a secondary consequence of pursuing the preferred-procurement policy alternative is that a significant amount of new "Economic Rent," which is defined as earnings in excess of cost

for low-cost producers, has been introduced into the marketplace. This newly-created Economic Rent can be roughly visualized in the figure as the area between the fossil energy portion of the supply curve, and a back-projection of the zero-emissions supply curve.

It is important to note that, from an economic perspective, the market-clearing price, which is set by the intersection between the supply and demand curves, is not likely to change very much in the future as the availability of carbon allowances is reduced, because we believe that preferred-procurement programs already in place have already caused the market-clearing price to lie on the green portion of the supply curve, as shown in the figure. Based on these idealized curves, the appropriate level at which to set the administratively-determined price for emissions allowances would be the result of converting the price represented by C_{zero} - C_{fossil}, which is measured in terms of cost per MWh, into an equivalent dollars-per-ton of CO_2 equivalents. The actual cost should include a discount to account for transaction costs, and to provide for an easier transition for entities that must acquire emissions allowances in order to operate.

In our opinion, the market-clearing price for energy supply is already set at the level of the green portion of the supply curve. This being the case, a significant amount of new Economic Rent has thereby been created and introduced into the marketplace, in effect as a result of regulation. With that kind of new, unclaimed Economic Rent left in the marketplace, it is likely that many market participants will attempt to lay claim to the treasure. Over time, if emissions allowances are distributed into the marketplace without charge to the recipients, there is a high likelihood that the fossil generators will be able to claim a large portion of the new Economic Rent, turning it into "producer surplus." Charging allowance recipients a fair, market-based price will serve to soak up a good deal of the newly created Economic Rent, preventing fossil generators from grabbing it. The revenues generated from sales of the allowances can be used in a variety of ways to benefit the energy consumers who will be paying more for cleaner, lower-carbon energy.

Section 3.2 of the ALJ's *Ruling* asks a series of questions about the basic options available for the allocation of greenhouse gas emissions allowances in the electricity sector. One of the difficulties in answering these questions is that the answers depend, in part, on decisions yet to be made in both this proceeding and at the CARB. If electric-sector regulation is ultimately load based, then the allocation system should be focused on allocating allowances among retail providers. If the regulation is first seller based, then the system should be focused on allocating allowances among fossil fuel-using generators and importers into California of fossil electricity. The ideal allowance allocation system for retail providers might not be the same as the ideal allocation system for generators. If and when a system of comprehensive, region-wide tracking of both emissions allowances and emissions liabilities is established, which we hope will be sooner rather than later, allocation of allowances will have to be open to any market participants who may hold emissions liabilities at the end of a compliance period, which we recommend be based on the calendar year.

Arguments will be made in this proceeding for both open competition for greenhouse gas emissions allowances, and for administratively-determined allocations of various kinds for emissions allowances. While we acknowledge the rationale behind applying historical claims to emissions rights, and that historical allocations of rights are used in a variety of existing environmental regulatory regimes, such as the federal SOx and NOx control program, the GPI favors a system of either administrative allocation based on demographic factors, or openly competed-for allowances for greenhouse gases, even during the initial phases of the state's greenhouse gas control program. Unlike the case of control efforts for criteria pollutants, where stabilization of total emissions, sometimes after a modest amount of decrease, is usually the objective, it is likely that the AB 32 program will be relentlessly driving down greenhouse gas emissions for a prolonged period of time. Thus, even if an entity in need of allowances is automatically allocated the amount of allowances required for full (pre-regulation) operations during the initial year of AB 32 regulation (2012), by the following year the entity would be allocated an inadequate amount of allowances to allow full operation (assuming proportional allocation from a shrinking supply), and will either have to either adjust operations, or seek

additional allowances in the marketplace. The process will be repeated in each subsequent year, with the allocated allowance deficit growing larger and more difficult in each subsequent year.

The beauty of an open-competition system for allowances is that it puts all market participants on an equal footing, and neither ignores nor punishes past actions taken to procure low-emissions resources. It also ensures that new entities in need of allowances will have a full opportunity to participate in the process. Open competition for increasingly rare allowances will allow utility procurement planners (load-based regulation), or generators who use fossil fuels (first seller regulation), to make better long-term decisions about their procurement efforts (load-based) or operational plans for their generators (first seller). For generators, in particular, it is preferable to be able to make intelligent long-range plans for their capital equipment, rather than being subjected to a slow but steady bleed in which operations contract a little bit every year, it never appears to be justified to perform recommended maintenance activities for the equipment, and it is never clear as to when it is time to simply give up and shut down.

As long as the state is attempting to ramp-down greenhouse gas emissions, greenhouse gas allowances will be valuable commodities. If they are distributed free of charge to either retailer sellers or generators, the intrinsic value of the allowances will represent a form of windfall to the recipient entity, a windfall that would be provided by the public sector. We do not believe that this is good policy. We believe that the best approach is to sell the emissions allowances to the public at a preset rate, using a well-crafted and fair allocation system in the likely event that the demand for rights to purchase emissions allowances are oversubscribed with respect to the supply. We further believe that a secondary market for allowances should be allowed to develop that will serve to arbitrage their value based on constantly changing market conditions. We believe that this is a superior solution to an auction system, in which prices are set by bid. An auction-based system is far more susceptible to the exercise of market power than either a properly-designed lottery-type system, or a demographically-based administrative allocation system that allocates rights to purchase emissions allowances at a preset price.

If the allocation system that is eventually adopted for emissions allowances is of the hybrid variety, partly open competition, and partly administrative allocation, then the relative share of the dwindling supply of allowances that are distributed by auction or lottery-allocated sales should increase over time, and the relative share of the allowances that are distributed based on historical factors should be gradually phased out. Similarly, if a mix of administrative allocations is used, such as partly historical, and partly demographic, then the relative mix should be adjusted over time to be more demographically based, and less historically based, and the allowances should be sold, rather than being distributed free of charge.

3.3 Auction Issues

If greenhouse gas emissions allowances are to be distributed by auction, the auctions should be open, accessible, and fair. We believe that allowances should be auctioned at least monthly, with AB 32 program compliance based on the calendar year. We favor the establishment of a non-profit entity to administer the distribution of the allowances, as is being done for RGGI in the Northeast, both because of its own intrinsic advantages, and for its easy expandability into regional program administration, which, we hope, will soon be appropriate. In our opinion, funds acquired in the auction or sale of emissions allowances should be devoted to the development of zero-emissions energy sources, which will benefit the ratepayers by facilitating compliance with AB 32 program requirements, and with longer-term state greenhouse gas emissions-control goals. The public entity should administer the funds using competitive, open-access programs, as well as administering the auction (or sale) and distribution of the emissions allowances. The currency for judging the efficiency of the use of the funds in promoting zero-emissions energy should be measured with metrics such as $ per MWh of zero-emission electricity provided or obviated (efficiency).

3.4 Administrative Allocation Issues

In many existing environmental regulatory regimes, historical emissions patterns are recognized and built into emissions allocation systems. This is referred to as

"Grandfathering" on page 7 of the ALJ's *Ruling*. Regulated entities that have higher-than-average levels of emissions usually favor this method of allocation. Below-average emitters usually feel that Grandfathering penalizes them for having taken early actions, or simply for having procured a lower-emitting mix of sources. Low-emitting entities also point out, using sound economic principles, that decreasing emissions by a specified amount (e.g. 10 percent) from a starting position of low emissions can be more difficult, hence expensive, than achieving the same level of reduction from a starting position of high emissions. Fairness and equity favors allocating emissions allowances on the basis of demographic factors, which can be a variation of the "benchmarking" or "Other" (e.g. population-based with some kind of climate adjustment) methods referred to in the *Ruling*. If the initial allocation is at least partially based on Grandfathering, then the relative proportion of allowances allocated by Grandfathering should be reduced over time. The federal clean air program provides more than ample evidence that indefinite Grandfathering of emissions allowances is poor public policy that leads to abuses, and ultimately impedes efforts to achieve the desired overall emissions reductions.

Question Q13 asks how often to update administrative allocations that are based on factors that change over time. In fact, administrative allocations will have to be adjusted on an annual basis in any case, as the total supply of allowances in the state will be reduced each year, and it would be desirable to gradually adjust down the mix of Grandfathered allowances if a hybrid allocation is initially employed. The annual determination of the allocation of emissions allowances is the proper interval in which to update the allocation with respect to a variety of factors, including demographic factors that change over time. Certain demographic information should be updated in accordance with a cycle that is based on the availability of updated official information. For example, population-based data should be updated following the publication of the once-a-decade federal census.

Question Q14 asks what baseline year to use if Grandfathering is used as the basis for the allocation of greenhouse gas emissions allowances. We favor going back in time as far as possible, in order to honor early actions. Utility baselines are currently being determined

for 1990, which is the baseline year that was incorporated into the pioneering Kyoto protocols. We favor using 1990 as the baseline year. It is important, however, to consider what the level of hydro availability was in the baseline year (we do not know what kind of hydro year 1990 was), and to make any necessary adjustments to reflect an average hydro year if the baseline year was far from average with respect to hydro.

We do not understand what is meant by a "two-track system" in question Q16. If allocation is based on Grandfathering, then entities with legacy coal obligations obtain a proportional amount of emissions allowances. If allocation is to be based on demographic factors, then the point is to avoid allocating allowances based on legacy, and a "two-track system," if we understand the term, would directly undermine that goal.

Decision D.07-01-039 in this proceeding, which implemented the Emissions Performance Standard for the procurement of new baseload electricity, found that renewable energy generation produces zero or very low levels of greenhouse gas emissions, or in the case of bioenergy actually reduces greenhouse gas emissions by eliminating higher-emitting alternative waste disposal practices. The material supporting these findings is already part of the record of this proceeding, and should continue to be used here. The two largest existing greenhouse gas reporting systems, RGGI in the Northeast, and the system used by the European Union, track only greenhouse gases produced by fossil fuel use. Biogenic carbon emissions are not tracked by these systems. The ARB's proposed reporting protocols, as they currently stand, will track both fossil and biogenic carbon emissions, but the two will be considered as separate categories of emissions, and only fossil carbon emissions will be have to acquire emissions allowances in order to be retired.

Within this framework, we propose that renewable energy generators should be considered zero emitters of greenhouse gases for purposes of AB 32 compliance, with the exception that emissions liabilities should be charged for the use of more than a de minimus quantity of fossil fuel by renewables generators, such as is common practice in the solar-thermal generating industry. If the first-seller point-of-regulation approach is eventually adopted renewables generators, with the exception of those that burn fossil

fuels, should not need to obtain allowances at all, as they are deemed zero-emissions generators. For renewables generators that do burn fossil fuels, allowances should only be needed for the portion of their electricity production that is generated by the fossil fuels. For biomass and biogas generators who produce fuel-related greenhouse gas reductions, offset credits should be allowable to the extent that the emissions reductions are demonstrable in accordance with state protocols. Offsets would be equivalent to allowances insofar as they could be used to retire fossil-carbon emissions liabilities.

3.5 Natural Gas Sector

From a technical perspective all greenhouse gas emissions are the same, regardless of their source or the application they serve. In other words, a ton of fossil CO_2 emitted from a power plant has exactly the same climate effect as a ton of fossil CO_2 emitted from an automobile. In order to create an economically efficient mechanism to reduce overall greenhouse gas emissions, and to take advantage of inter-sectoral differences in the efficiency of reducing fossil carbon intensity, it is essential that greenhouse gas emissions allowances be denominated in terms of tons of CO_2 equivalents, and that emissions allowances intended for use by the electric sector be fully compatible with and tradable with emissions allowances intended for all other sectors, including natural gas direct use applications. AB 32 calls for overall emissions reductions—it does not specify any sector-specific reductions. If the greenhouse gas emissions liabilities and allowances used for regulating electric-sector emissions are not fully compatible with those used in other sectors, that would constitute a de facto sector-specific regulation, which is both inefficient, and contrary to the spirit of AB 32.

Linking natural gas emissions to electric emissions is especially important as electricity and natural gas compete head-on for a variety of end-use applications, as well as natural gas being one of the major fuels used for electricity generation. Natural gas production and use leads to emissions of carbon in the form of CH_4 as well as CO_2. Carbon that is emitted in the form of CH_4 has a much higher greenhouse warming effect on a per-carbon basis than carbon that is emitted in the form of CO_2. Careful and accurate accounting for

each of these fossil greenhouse gases is critical to the effectiveness of a greenhouse-gas reduction program.

3.6 Overall Recommendation

The Green Power Institute recommends that greenhouse gas emissions allowances be sold to purchasers at a price that reflects the difference in value between fossil fuel-based electricity and zero greenhouse gas-based electricity supply, including efficiency. The sales should be handled by a not-for-profit institution that is created expressly for the purpose. Revenues generated by the sales should be used to further the development of new zero-emissions generating options (supply or efficiency), including installations on the customer-side of the meter.

If a decision is made to reaffirm the Commission's adoption of the load-based regulatory model to control greenhouse gas emissions, then the GPI recommends that rights to purchase emissions allowances, at least in the beginning, should be distributed on the basis of historical need by retailers. The essential rationale for using a load-based point-of-compliance system is to allow procurement entities to adjust the mix of their supply sources over time towards lower- and zero-emitting options. The initial, historically-based allocation should be shifted as quickly as reasonable to a system based on demographic factors, such as population served with modifications for climatic factors, and/or with an increasing proportion of the dwindling overall supply of allowance purchase rights being allocated by lottery. The transition from a historical-based allocation to a demographic-based allocation, or an open-access allocation, should be completed by 2020, when the overall compliance obligations of AB 32 are supposed to be achieved.

If it is decided to regulate under the first seller model, or simply on the basis of any market participant holding emissions liabilities at the end of a compliance period having to obtain corresponding allowances, then the GPI recommends that the purchase rights for greenhouse gas emissions allowances should be allocated by open-access lottery as quickly as possible after the 2012 initiation of the AB 32 program, although some limited amount

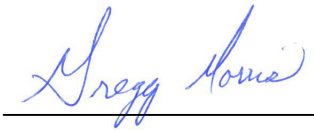
of allocating on the basis of Grandfathering might be appropriate at the beginning of the process.

Conclusion

The Green Power Institute recommends that greenhouse gas emissions allowances, which will be created in conjunction with the compliance regime that is currently being developed as part of the implementation of AB 32, be sold to market participants at a price that is related to the difference in cost between fossil power and zero greenhouse gas emissions power, rather than being auctioned or distributed free of charge. The allocation of rights to purchase allowances within a fixed-price sales structure can be done in a variety of ways, including historical allocations, demographic factor-based allocations, open-access lottery-style allocation, or a combination of these methods. We favor open-access, or administrative allocations based on demographic factors. A secondary market for emissions allowances will allow market participants in need of extra allowances to shop for them, and will provide for price arbitrage in the competitive marketplace.

Dated October 31, 2007, at Berkeley, California.

Respectfully Submitted,



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PROOF OF SERVICE

I hereby certify that on October 31, 2007, I have served a copy of the COMMENTS OF THE GREEN POWER INSTITUTE ON ALLOWANCE ALLOCATION ISSUES upon all parties listed on the Service List for this proceeding, R-06-04-009. All parties have been served by email or first class mail, in accordance with Commission Rules.

Gregory Morris